

## CLAIMS

The invention claimed is:

1           1.       A set comprising:  
2           an RF transponder to use with a toy;  
3           at least two antennas to emit detection signals to the RF transponder; and  
4           a multiplexer coupled to the two antennas to activate a first one of the antennas at a  
5           different time interval than a second one of the antennas.

1           2.       The set of claim 1, wherein  
2           the multiplexer is to activate periodically the first and the second antennas.

1           3.       The set of claim 1, wherein  
2           the antennas are coil antennas.

1           4.       The set of claim 3, wherein  
2           the coil antennas have single turn coils.

1           5.       The set of claim 1, wherein  
2           each of the antennas has a main axis, and  
3           the antennas are oriented such that their respective main axes are not parallel to each  
4           other.

1           6.       The set of claim 1, wherein  
2           each of the antennas has a main axis, and  
3           the antennas are oriented such that their respective main axes are substantially parallel to  
4           each other.

1           7.       The set of claim 1, wherein  
2           each of the antennas has a main plane, and  
3           the antennas are oriented such that their respective main planes are substantially parallel  
4           to each other, but they do not belong in the same plane.  
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1           8.     The set of claim 1, further comprising:  
2           a program adapted to determine which one of the two antennas receives a return signal  
3 from the RF transponder.

1           9.     A set comprising:  
2           a toy figurine including an RF transponder;  
3           at least two antennas to emit respective first and second detection signals at different  
4 times from each other;  
5           an antenna reader to receive a return signal from the RF transponder responsive to one of  
6 the first and second detection signals.

1           10.    The set of claim 9, further comprising:  
2           an antenna driver; and  
3           a multiplexer to receive a single antenna drive signal from the antenna driver, and to  
4 direct the antenna drive signal alternatingly between the first antenna and the second antenna to  
5 cause them to emit the first and second detection signals.

1           11.    The set of claim 9, further comprising:  
2           a program adapted to determine an identity of the toy figurine.

1           12.    The set of claim 9, further comprising:  
2           a program adapted to determine a location of the toy figurine.

1           13.    A set for use with a program comprising:  
2           a play device;  
3           at least two antennas to emit respective first and second detection signals at different time  
4 intervals, the antennas positioned at first and a second antenna locations of the play device  
5 respectively;  
6           a first toy to place on the play device including a first RF transponder to generate a first  
7 return signal in response to the first detection signal; and

8 a second toy to place on the play device including a second RF transponder to generate a  
9 second return signal in response to the second detection signal;  
10 wherein the program is adapted to identify the first return signal with the first toy and the  
11 second return signal with the second toy.

1 14. The set of claim 13, further comprising:  
2 an antenna driver; and  
3 a multiplexer to receive a single antenna drive signal from the antenna driver, and to  
4 direct the antenna drive signal alternatingly between the first antenna and the second antenna to  
5 cause them to emit the first and second detection signals.

1 15. The set of claim 13, wherein  
2 the program is adapted to determine first and second locations relative to the play device  
3 for the first and the second toys from the first and second return signals, respectively.

1 16. The set of claim 13, wherein  
2 the first RF transponder has a first response characteristic,  
3 the second RF transponder has a second response characteristic different from the first  
4 response characteristic, and  
5 the program is further adapted to determine which of the first and second toys is at the  
6 first location.

1 17. The set of claim 9, wherein  
2 the RF transponder is detachably connected to the toy figurine.

1 18. An article comprising: a storage medium, said storage medium having stored  
2 thereon instructions, that, when executed by at least one device, result in:  
3 emitting a first detection signal from a first antenna;  
4 emitting a second detection signal from a second antenna at a different time interval than  
5 emitting the first detection signal;

6 receiving a return signal from an RF transponder in response to one of the first and  
7 second detection signals; and  
8 determining which one of the first and second antennas received the return signal.

1 19. The article of claim 18, wherein the instructions further result in:  
2 determining a response characteristic of the return signal; and  
3 matching the determined response characteristic with a response characteristic stored in a  
4 memory.

1 20. The article of claim 18, wherein the instructions further result in:  
2 determining which antenna provided the return signal.

1 21. The article of claim 20, wherein the instructions further result in:  
2 looking up a location of the antenna that provided the return signal.

1 22. A method comprising:  
2 emitting a first detection signal from a first antenna;  
3 emitting a second detection signal from a second antenna at a different time interval than  
4 emitting the first detection signal; and  
5 receiving a return signal from an RF transponder in response to one of the first and  
6 second detection signals.

1 23. The method of claim 22, further comprising:  
2 receiving a single antenna drive signal; and  
3 multiplexing the antenna drive signal between the first antenna and the second antenna.

1 24. The method of claim 22, further comprising:  
2 determining a location of the RF transponder from the return signal.

1 25. The method of claim 22, further comprising:  
2 determining a response characteristic of the return signal; and

3 matching the determined response characteristic with a response characteristic stored in a  
4 memory.

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1 26. The method of claim 22, wherein  
2 multiplexing the antenna drive signal is performed periodically.  
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